

ABSTRACT OF THE DISCLOSURE

In an apparatus for ejecting droplets comprising nozzles that eject droplets, liquid containing chambers
5 each connected at one longitudinal end thereof with a corresponding nozzle, and an actuator that changes a volume of each of the liquid containing chamber, an ejection pulse signal and an additional pulse signal each increasing the volume of the liquid containing chamber are sequentially
10 applied in accordance with a one-dot printing instruction. When the volume of the liquid containing chamber decreases upon completion of the application of the ejection pulse signal, liquid becomes protruding from the nozzle. The additional pulse signal is then applied to pull a tail
15 portion of the liquid back toward the liquid containing chamber, thereby ejecting a fine droplet. Given that a time required for a pressure wave to propagate in one way longitudinally through the liquid containing chamber is T , a pulse width of the ejection pulse signal, a pulse width
20 of the additional pulse signal, and a time interval between a completion of the application of the ejection pulse signal and a start of the application of the additional pulse signal are set at $0.8T$, $0.4T$, and $0.5T$, respectively.